

**Dr. Duke's Phytochemical and Ethnobotanical Databases**

**List of Plants for GAMMA-MUROLENE**

Plant	Part	Low PPM	High PPM	StdDev	Reference
Acinos alpinus	Shoot		1.0	-0.3724734981350398	Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of <i>Acinus alpinus</i> (L.) Moench ssp. <i>meridionalis</i> (Nyman). P.W. Ball Growing in Spain. <i>Flav. &amp; Frag. J.</i> 8:127-130.)
Acinos alpinus	Shoot		1.0	-0.3724734981350398	Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of <i>Acinus alpinus</i> (L.) Moench ssp. <i>meridionalis</i> (Nyman). P.W. Ball Growing in Spain. <i>Flav. &amp; Frag. J.</i> 8:127-130.)
Agathosma betulina	Leaf Essent. Oil				--
Angelica archangelica	Root Essent. Oil				--
Angelica archangelica	Root	1.0	4.0	-1.0	--
Avena sativa	Seed				--
Boswellia sacra	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Callicarpa americana	Leaf		8.0	-0.7262677524505766	--
Carthamus tinctorius	Bud		0.06		--
Daucus carota	Root		3000.0	1.0	--
Elsholtzia polystachya	Leaf		3.0	-0.7572292278900044	Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from <i>Elsholtzia polystachya</i> from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.
Elsholtzia polystachya	Leaf		3.0	-0.7572292278900044	Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from <i>Elsholtzia polystachya</i> from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.
Humulus lupulus	Fruit		170.0	1.0	--
Juniperus communis	Fruit Essent. Oil				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Juniperus communis</i>	Fruit		128.0	-1.0	--
<i>Laurus nobilis</i>	Leaf				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Leonotis leonurus</i>	Se		0.5		Pedro, L.G., Barroso, J.G., Marques, N.T., Ascensao, L., Pais, M.S.S. and Scheffer, J.J.C. 1991. Composition of the Essential Oil from Sepals of <i>Leonotis leonurus</i> R. Br. <i>J. Ess. Oil Res.</i> 3: 451-3
<i>Lycopus virginicus</i>	Plant	5.0	12.0	-0.6021967670813085	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Lycopus uniflorus</i>	Plant		24.0	-0.5503948946442068	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Magnolia denudata</i>	Twig				--
<i>Magnolia denudata</i>	Bulb				--
<i>Magnolia denudata</i>	Leaf				--
<i>Magnolia denudata</i>	Flower				--
<i>Mentha aquatica</i>	Shoot				Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha aquatica</i>	Shoot				Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha aquatica</i>	Shoot				Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha aquatica</i>	Shoot		1.0	-0.3724734981350398	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.

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<i>Mentha aquatica</i>	Shoot		1.0	-0.3724734981350398	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Micromeria croatica</i>	Leaf		100.0	-0.15657660436510631	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of <i>Micromeria congesta</i> . <i>J. Ess. Oil Res.</i> , 3: 387-393.
<i>Myroxylon balsamum</i>	Plant				--
<i>Myrrhis odorata</i>	Leaf Essent. Oil		9500.0	1.0	--
<i>Nepeta racemosa</i>	Shoot		2.0	-0.23944724880109708	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of <i>Nepeta racemosa</i> Lam. <i>J. Ess. Oil Res.</i> 5: 215-7.
<i>Nepeta racemosa</i>	Shoot		0.0	-0.5054997474689825	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of <i>Nepeta racemosa</i> Lam. <i>J. Ess. Oil Res.</i> 5: 215-7.
<i>Ocimum basilicum</i>	Plant				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
<i>Ocimum kilimandscharicum</i>	Leaf	190.0	325.0	1.236689790409142	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of <i>Ocimum killimandscharicum</i> Guerke. <i>J. Ess. Oil Res.</i> , 4: 125-128.
<i>Ocimum gratissimum</i>	Leaf	240.0	420.0	1.8249578237582693	Charles, D.J. and Simon, J.E. 1992. A New Geraniol Chemotype of <i>Ocimum gratissimum</i> L. <i>J. Ess. Oil Res.</i> 4: 231-234.
<i>Ocimum basilicum</i>	Essential Oil				--
<i>Ocimum kilimandscharicum</i>	Flower	225.0	2060.0	1.0	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of <i>Ocimum killimandscharicum</i> Guerke. <i>J. Ess. Oil Res.</i> , 4: 125-128.
<i>Ocimum gratissimum</i>	Flower	190.0	290.0	-1.0	Charles, D.J. and Simon, J.E. 1992. A New Geraniol Chemotype of <i>Ocimum gratissimum</i> L. <i>J. Ess. Oil Res.</i> 4: 231-234.
<i>Opopanax chironium</i>	Essential Oil				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Origanum vulgare</i>	Plant	16.0	88.0	-0.2741182416463305	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pelargonium graveolens</i>	Essential Oil				--
<i>Pinus sylvestris</i>	Essential Oil				--
<i>Pinus sylvestris</i>	Wood				--
<i>Pinus sylvestris</i>	Leaf Essent. Oil		4000.0	-1.0	--
<i>Pinus sylvestris</i>	Stem				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Piper auritum</i>	Leaf				Tramil
<i>Piper nigrum</i>	Fruit Essent. Oil		7300.0		--
<i>Piper nigrum</i>	Fruit				--
<i>Psidium guajava</i>	Pericarp Essent. Oil				--
<i>Ptychopetalum olacoides</i>	Root Essent. Oil		5000.0		Uber Bucek, E., Fournier, G., Dadoun, H. 1987. Volatile Constituents of <i>Ptychopetalum olacoides</i> Root Oil. <i>Planta Med.</i> 53, 2: 231.
<i>Rheum palmatum</i>	Rhizome		9.0	-1.0	--
<i>Rosmarinus officinalis</i>	Plant	70.0	665.0	2.2166884580376487	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Salvia dorisiana</i>	Shoot	25.0	26.0	2.953182735213529	Tucker, A.O. & Maciarello, M.J. 1994. The Essential Oil of <i>Salvia dorisiana</i> Standley. <i>J. Ess. Oil Res.</i> 6: 97-8.
<i>Satureja subspicata</i>	Plant		30.0	-0.5244939584256559	Stanic, G., Petricic, J., and Blazevic, N. 1991. Gas Chromatographic Investigations of Essential Oils of <i>Satureja montana</i> and <i>Satureja subspicata</i> from Yugoslavia. <i>J. Ess. Oil Res.</i> , 3: 153-158.
<i>Satureja cilicina</i>	Shoot		5.0	0.15963149920073122	Tumen, G. Baser, K.H.C. and Kirimer, N. 1993. The Essential Oil of <i>Satureja cilicina</i> P.H. Davis. <i>J. Ess. Oil Res.</i> 5: 547-548.
<i>Satureja montana</i>	Plant	4.0	90.0	-0.26548459624014686	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Syzygium aromaticum	Leaf	11.0	18.0	-0.6643448015717212	Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
Syzygium aromaticum	Fruit				--
Teucrium polium	Shoot		0.5	-0.43898662280201123	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian Teucrium Species. J. Ess. Oil Res. 5: 397-402.
Teucrium gnaphalodes	Shoot		0.5	-0.43898662280201123	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian Teucrium Species. J. Ess. Oil Res. 5: 397-402.
Thymus capitatus	Plant				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Zingiber officinale	Rhizome	7.0	455.0	1.0	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Zingiber officinale	Rhizome Essent. Oil		9100.0		--